To: Thom

FD 3/14/02

Access DB# 93004

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Brian Kwon Examiner #: 78155 Date: 5/1/03
Art Unit: 1614 Phone Number 30 8-5397 Serial Number: 10/090085
Mail Box and Bldg/Room Location: 3D04 Results Format Preferred (circle): PAPER DISK E-MAIL

CM1 MEJ

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Method for opening potassium channels

Inventors (please provide full names): Lamburn et al.

Earliest Priority Filing Date: 3/01

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

RECEIVED MAY 01 2003 TECH CENTER 1600/2900

(1) Method for opening potassium channels with compound of formula (in claim 1).

(2) Method for treating or inducing hyperpolarization (claim 3)

(3) Method for treating conditions caused by excessive cell membrane depolarization (claim 4)

Will attempt

****

STAFF USE ONLY

Searcher: Point of Contact: Thomas G. Larson, Ph.D.
Searcher Phone #: 703-308-7309
Searcher Location: CM1, Rm. 6 B 01
Date Searcher Picked Up:
Date Completed: 5/22
Searcher Prep & Review Time: 60
Clerical Prep Time:
Online Time: 260

Type of Search

NA Sequence (#)
AA Sequence (#)
Structure (#) 1
Bibliographic V
Litigation
Fulltext
Patent Family
Other

Vendors and cost where applicable

STN #640
Dialog
Questel/Orbit
Dr.Link
Lexis/Nexis
Sequence Systems
WWW/Internet
Other (specify)

PTO-1590 (8-01)

```
=> file registry hcaplus
FILE 'REGISTRY' ENTERED AT 15:06:12 ON 22 MAY 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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FILE 'HCAPLUS' ENTERED AT 15:06:12 ON 22 MAY 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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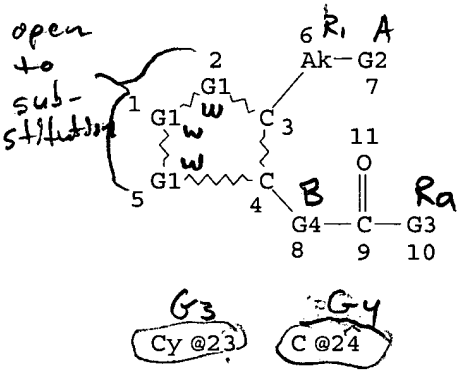
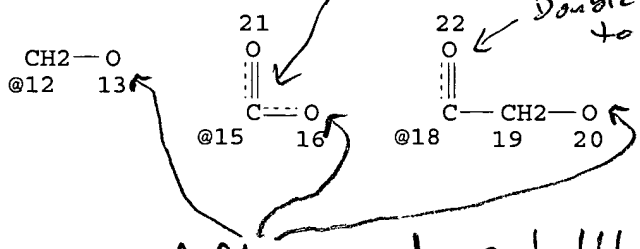
```

structure would not run to completion. This line creates a subset of structures with 5 membered rings.

```
=> D QUE L25
L5       1096579 SEA FILE=REGISTRY ABB=ON  PLU=ON  5/SZ (P) (C5/EA OR C4O/EA OR
                 C3O2/EA OR C2O3/EA)
L7               SCR 2084
L8               SCR 2043
L10              STR
```





Double bond or normalized allows for resonance structure for add.

Double bond or normalized tautomer to allow for formation

left open to substitution since claim recites "or a ... derivative there of."


```
VAR G1=C/O
VAR G2=12/15/18
VAR G3=AK/23
REP G4=(0-3) 24
NODE ATTRIBUTES:
CONNECT IS E2  RC AT  24
DEFAULT MLEVEL IS ATOM
GGCAT   IS MCY  AT  23
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS  22

STEREO ATTRIBUTES: NONE
```

W 1-3
A
B
Ra

B is generic akyl group or generic cyclic group.

Gy = 0, Ra is bond

Non hydrogen connectivity is exactly 2 for C @ 24 forcing Gy (Ra) to be linear and unsubstituted.

generic cyclic group @ 23 is limited to being monocyclic.

```
L16              SCR 1643
L18         1742 SEA FILE=REGISTRY SUB=L5 SSS FUL L10 AND (L7 NOT (L8 OR L16))
L19          850 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L18
L21         2048 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "POLARIZATION (L) DEPOLARIZATI
                 ON, BIOL."+PFT/CT
L22         1199 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "POLARIZATION (L) HYPERPOLARIZ
                 ATION, BIOL."+PFT/CT
L25            2 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L19 AND (L21 OR L22)
```

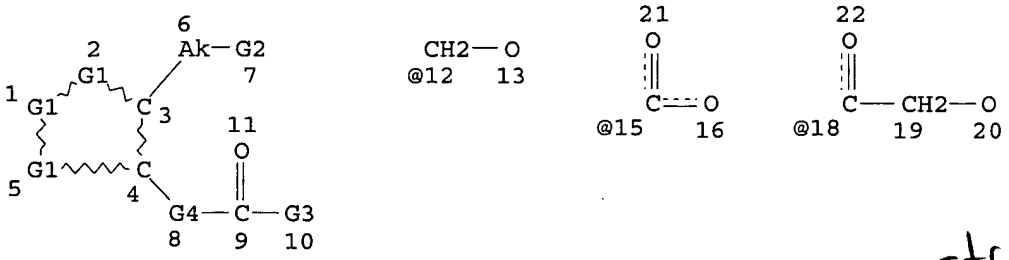
use controlled index term field "/CT" "pft" allows both current (prefered) and obsolete (forbidden) terms to be searched

```
=> D QUE L27
L5       1096579 SEA FILE=REGISTRY ABB=ON  PLU=ON  5/SZ (P) (C5/EA OR C4O/EA OR
                 C3O2/EA OR C2O3/EA)
L7               SCR 2084
```

/SZ (ring size field)

/EA (elemental analysis field)

L8 SCR 2043
L10 STR



Same structure search as before.

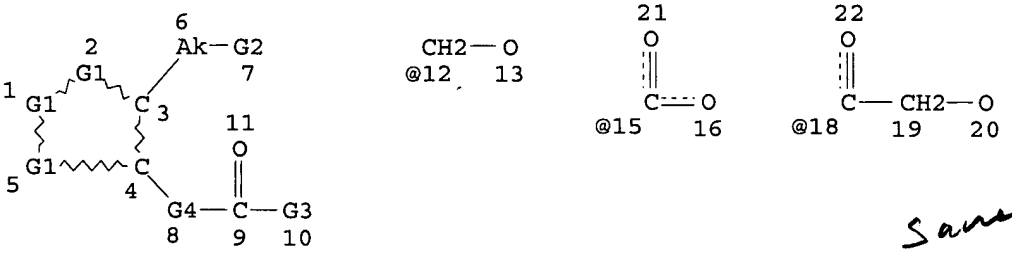
Cy @23 C @24

VAR G1=C/O
VAR G2=12/15/18
VAR G3=AK/23
REP G4=(0-3) 24
NODE ATTRIBUTES:
CONNECT IS E2 RC AT 24
DEFAULT MLEVEL IS ATOM
GGCAT IS MCY AT 23
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE
L16 SCR 1643
L18 1742 SEA FILE=REGISTRY SUB=L5 SSS FUL L10 AND (L7 NOT (L8 OR L16))
L19 850 SEA FILE=HCAPLUS ABB=ON PLU=ON L18
L24 1467 SEA FILE=HCAPLUS ABB=ON PLU=ON "ION CHANNEL OPENERS (L) POTASSIUM"+PFT/CT
L26 1589 SEA FILE=HCAPLUS ABB=ON PLU=ON "ION CHANNEL BLOCKERS (L) POTASSIUM"+PFT/CT
L27 3 SEA FILE=HCAPLUS ABB=ON PLU=ON L19 AND (L24 OR L26)

=> D QUE L28
L5 1096579 SEA FILE=REGISTRY ABB=ON PLU=ON 5/SZ (P) (C5/EA OR C4O/EA OR C3O2/EA OR C2O3/EA)
L7 SCR 2084
L8 SCR 2043
L10 STR



Same structure search as before

Cy @23 C @24

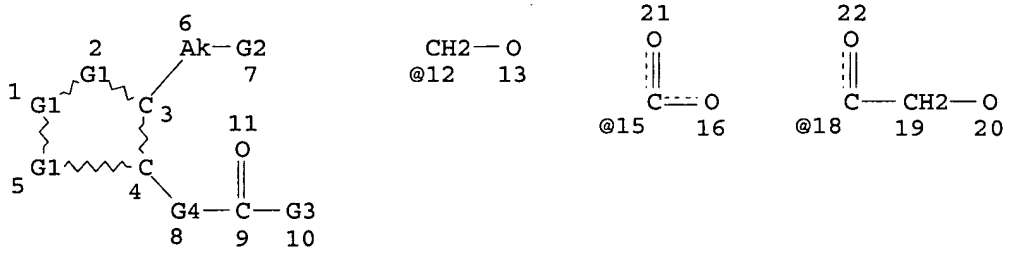
```
VAR G1=C/O
VAR G2=12/15/18
VAR G3=AK/23
REP G4=(0-3) 24
NODE ATTRIBUTES:
CONNECT IS E2  RC AT  24
DEFAULT MLEVEL IS ATOM
GGCAT   IS MCY  AT  23
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS  22

STEREO ATTRIBUTES: NONE
L16             SCR 1643
L18        1742 SEA FILE=REGISTRY SUB=L5 SSS FUL L10 AND (L7 NOT (L8 OR L16))
L19         850 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L18
L23       22421 SEA FILE=HCAPLUS ABB=ON  PLU=ON  POTASSIUM CHANNEL+NT,PFT/CT
L28           1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L19 AND L23
```

"NT" - include narrower index terms in search.

```
=> D QUE L31
L5      1096579 SEA FILE=REGISTRY ABB=ON  PLU=ON  5/SZ (P) (C5/EA OR C4O/EA OR
                C3O2/EA OR C2O3/EA)
L7              SCR 2084
L8              SCR 2043
L10             STR
```



Cy @23 C @24

```
VAR G1=C/O
VAR G2=12/15/18
VAR G3=AK/23
REP G4=(0-3) 24
NODE ATTRIBUTES:
CONNECT IS E2  RC AT  24
DEFAULT MLEVEL IS ATOM
GGCAT   IS MCY  AT  23
DEFAULT ECLEVEL IS LIMITED

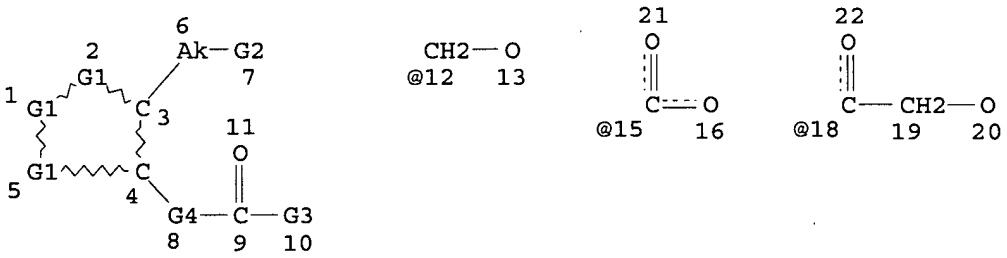
GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS  22

STEREO ATTRIBUTES: NONE
L16             SCR 1643
L18        1742 SEA FILE=REGISTRY SUB=L5 SSS FUL L10 AND (L7 NOT (L8 OR L16))
```

```
L19          850 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L18
L30         1707 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ION CHANNEL OPENERS+NT,PFT/CT

L31            2 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L19 AND L30


=> D QUE L37
L5       1096579 SEA FILE=REGISTRY ABB=ON  PLU=ON  5/SZ (P) (C5/EA OR C4O/EA OR
                 C3O2/EA OR C2O3/EA)
L7               SCR 2084
L8               SCR 2043
L10              STR
```



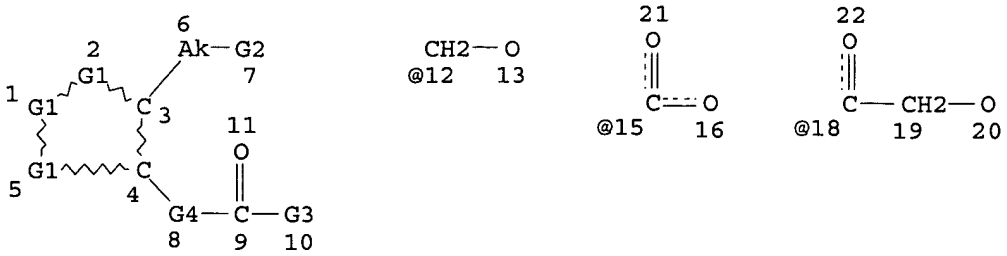

```
  Cy @23    C @24

VAR G1=C/O
VAR G2=12/15/18
VAR G3=AK/23
REP G4=(0-3) 24
NODE ATTRIBUTES:
CONNECT IS E2  RC AT  24
DEFAULT MLEVEL IS ATOM
GGCAT   IS MCY  AT  23
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS  22

STEREO ATTRIBUTES: NONE
L16              SCR 1643
L18         1742 SEA FILE=REGISTRY SUB=L5 SSS FUL L10 AND (L7 NOT (L8 OR L16))
L19          850 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L18
L32        36850 SEA FILE=HCAPLUS ABB=ON  PLU=ON  HYPERTENSION+NT,PFT/CT
L33        22431 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ANTIHYPERTENSIVES+NT,PFT/CT
L34           39 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L19 AND (L32 OR L33)
L35       179540 SEA FILE=HCAPLUS ABB=ON  PLU=ON  POTASSIUM+NT,PFT/CT
L36         6725 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "POTASSIUM(1+)"+NT,PFT/CT
L37            0 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L34 AND (L35 OR L36)


=> D QUE L40
L5       1096579 SEA FILE=REGISTRY ABB=ON  PLU=ON  5/SZ (P) (C5/EA OR C4O/EA OR
                 C3O2/EA OR C2O3/EA)
L7               SCR 2084
L8               SCR 2043
L10              STR
```



Cy @23 C @24

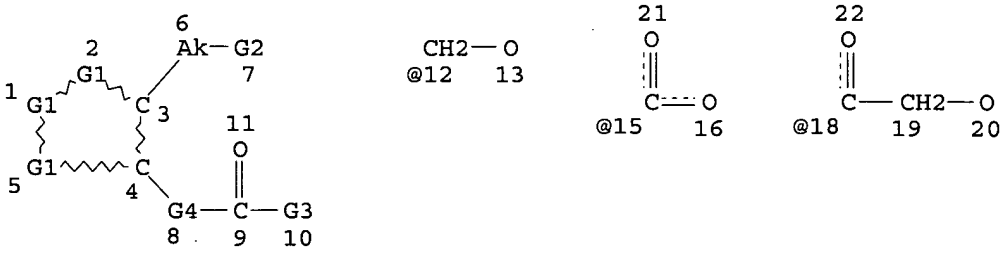
VAR G1=C/O
VAR G2=12/15/18
VAR G3=AK/23
REP G4=(0-3) 24
NODE ATTRIBUTES:
CONNECT IS E2 RC AT 24
DEFAULT MLEVEL IS ATOM
GGCAT IS MCY AT 23
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE

L16 SCR 1643
L18 1742 SEA FILE=REGISTRY SUB=L5 SSS FUL L10 AND (L7 NOT (L8 OR L16))
L19 850 SEA FILE=HCAPLUS ABB=ON PLU=ON L18
L38 290 SEA FILE=HCAPLUS ABB=ON PLU=ON "POTASSIUM (L) HYPERKALEMIA"+NT,PFT/CT
L39 407 SEA FILE=HCAPLUS ABB=ON PLU=ON "POTASSIUM (L) HYPOKALEMIA"+NT,PFT/CT
L40 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L19 AND (L38 OR L39)

=> D QUE L41
L5 1096579 SEA FILE=REGISTRY ABB=ON PLU=ON 5/SZ (P) (C5/EA OR C4O/EA OR C3O2/EA OR C2O3/EA)
L7 SCR 2084
L8 SCR 2043
L10 STR



Cy @23 C @24

```
VAR G1=C/O
VAR G2=12/15/18
VAR G3=AK/23
REP G4=(0-3) 24
NODE ATTRIBUTES:
CONNECT IS E2  RC AT  24
DEFAULT MLEVEL IS ATOM
GGCAT   IS MCY  AT  23
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS  22

STEREO ATTRIBUTES: NONE
L16             SCR 1643
L18        1742 SEA FILE=REGISTRY SUB=L5 SSS FUL L10 AND (L7 NOT (L8 OR L16))
L19         850 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L18
L35      179540 SEA FILE=HCAPLUS ABB=ON  PLU=ON  POTASSIUM+NT,PFT/CT
L36        6725 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "POTASSIUM(1+)"+NT,PFT/CT
L41           2 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L19 AND (L35 OR L36)


=> D QUE L42
L5      1096579 SEA FILE=REGISTRY ABB=ON  PLU=ON  5/SZ (P) (C5/EA OR C4O/EA OR
                C3O2/EA OR C2O3/EA)
L7              SCR 2084
L8              SCR 2043
L10             STR
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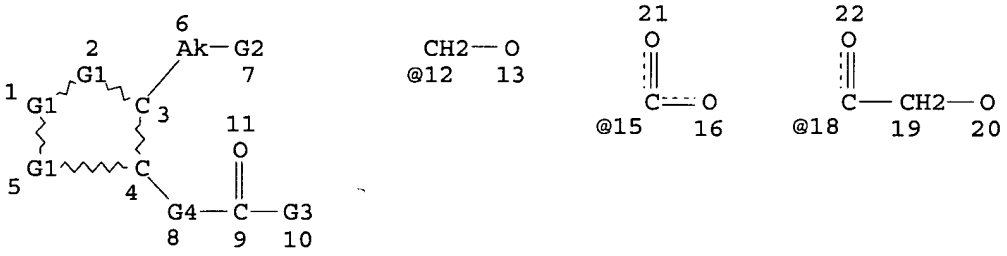


Cy @23 C @24

```
VAR G1=C/O
VAR G2=12/15/18
VAR G3=AK/23
REP G4=(0-3) 24
NODE ATTRIBUTES:
CONNECT IS E2  RC AT  24
DEFAULT MLEVEL IS ATOM
GGCAT   IS MCY  AT  23
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS  22

STEREO ATTRIBUTES: NONE
L16             SCR 1643
L18        1742 SEA FILE=REGISTRY SUB=L5 SSS FUL L10 AND (L7 NOT (L8 OR L16))
```

```
L19          850 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L18
L32        36850 SEA FILE=HCAPLUS ABB=ON  PLU=ON  HYPERTENSION+NT,PFT/CT
L33        22431 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ANTIHYPERTENSIVES+NT,PFT/CT
L34           39 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L19 AND (L32 OR L33)
L42            5 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L34 AND (HYPERTEN? OR
                  HYPOTEN? OR POTASSIUM OR K OR K (W) "1+")/TI

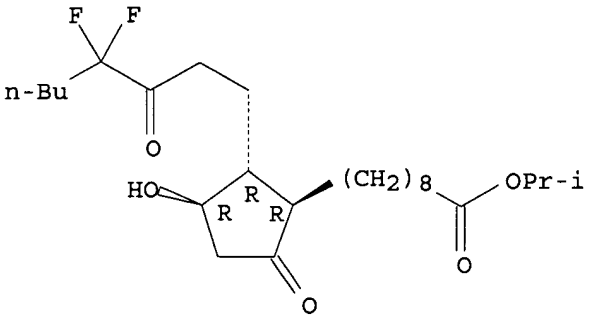

=> S L25 OR L27 OR L28 OR L31 OR L37 OR L40 OR L41 OR L42
L43          10 L25 OR L27 OR L28 OR L31 OR L37 OR L40 OR L41 OR L42

=> D IBIB ABS HITSTR L43 1-10

L43  ANSWER 1 OF 10  HCAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:         2003:300897  HCAPLUS
DOCUMENT NUMBER:          138:314623
TITLE:                    Prostaglandin analogs as chloride channel opener
INVENTOR(S):              Ueno, Ryuji; Cuppoletti, John
PATENT ASSIGNEE(S):       Sucampo AG, Switz.
SOURCE:                   PCT Int. Appl., 81 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

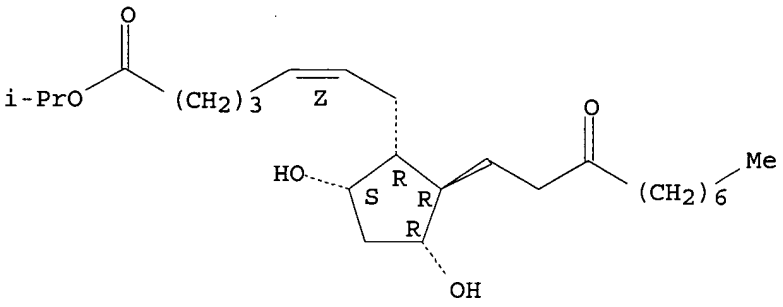
     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ---------------   ----  --------       ---------------  --------
     WO 2003030912      A1   20030417       WO 2002-JP8705   20020829
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS,
             LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL,
             PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA,
             UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,
             TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
             CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
             PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
             NE, SN, TD, TG
PRIORITY APPLN. INFO.:                  US 2001-315917P  P  20010831
                                        US 2002-372104P  P  20020415
AB   Disclosed is a novel use of a prostaglandin compd. as a chloride channel
     opener. According to the instant invention, chloride channels in a
     mammalian subject can be opened by a prostaglandin compd. to facilitate
     chloride ion transportation. Prepn. of prostaglandin compds. such as
     13,14-dihydro-15-keto-20-ethyl-PGF2.alpha. N-ethylamide are described.
     Prostaglandin compds. were tested in various cells and cell lines,
     including cell lines derived from cystic fibrosis patients.
IT   140407-76-7
     RL: BSU (Biological study, unclassified); PAC (Pharmacological activity);
     THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (prostaglandin analogs as chloride channel opener)
RN   140407-76-7  HCAPLUS
CN   Cyclopentanenonanoic acid, 2-(4,4-difluoro-3-oxooctyl)-3-hydroxy-5-oxo-,
     1-methylethyl ester, (1R,2R,3R)- (9CI)  (CA INDEX NAME)

Absolute stereochemistry.
```



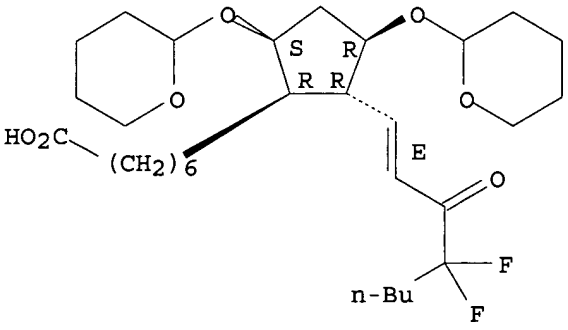
IT **120373-24-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(prostaglandin analogs as chloride channel opener)
RN 120373-24-2 HCAPLUS
CN 5-Heptenoic acid, 7-[(1R,2R,3R,5S)-3,5-dihydroxy-2-(3-oxodecyl)cyclopentyl]-, 1-methylethyl ester, (5Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



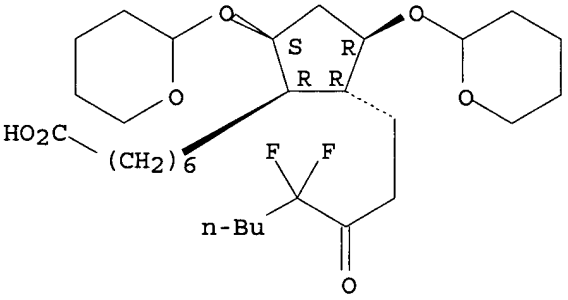
IT **511229-78-0P 511229-79-1P 511229-81-5P**
511229-82-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prostaglandin analogs as chloride channel opener)
RN 511229-78-0 HCAPLUS
CN Prost-13-en-1-oic acid, 16,16-difluoro-15-oxo-9,11-bis[(tetrahydro-2H-pyran-2-yl)oxy]-, (9.alpha.,11.alpha.,13E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



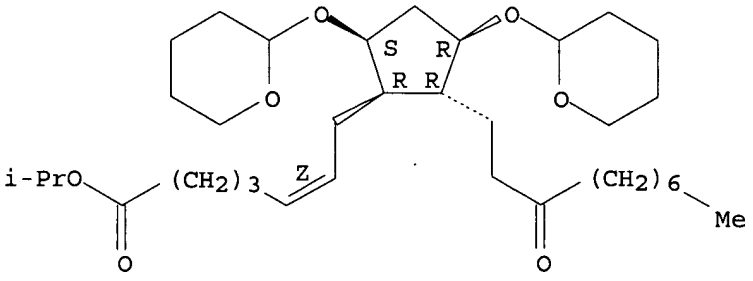
RN 511229-79-1 HCAPLUS
CN Prostan-1-oic acid, 16,16-difluoro-15-oxo-9,11-bis[(tetrahydro-2H-pyran-2-yl)oxy]-, (9.alpha.,11.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



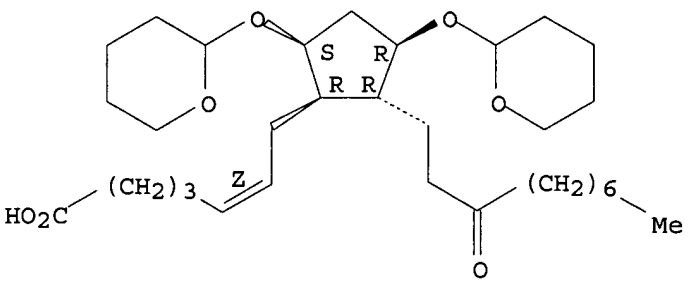
RN 511229-81-5 HCAPLUS
CN 5-Heptenoic acid, 7-[(1R,2R,3E,5S)-2-(3-oxodecyl)-3,5-bis[(tetrahydro-2H-pyran-2-yl)oxy]cyclopentyl]-, 1-methylethyl ester, (5Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 511229-82-6 HCAPLUS
CN 5-Heptenoic acid, 7-[(1R,2R,3E,5S)-2-(3-oxodecyl)-3,5-bis[(tetrahydro-2H-pyran-2-yl)oxy]cyclopentyl]-, (5Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:717100 HCAPLUS
DOCUMENT NUMBER: 137:226656
TITLE: Method for opening **potassium** channels
INVENTOR(S): Lambrou, George N.; Ottlecz, Anna; Percicot, Christine; Wiederholt, Michael
PATENT ASSIGNEE(S): Fr.
SOURCE: U.S. Pat. Appl. Publ., 7 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002133009	A1	20020919	US 2002-90085	20020304

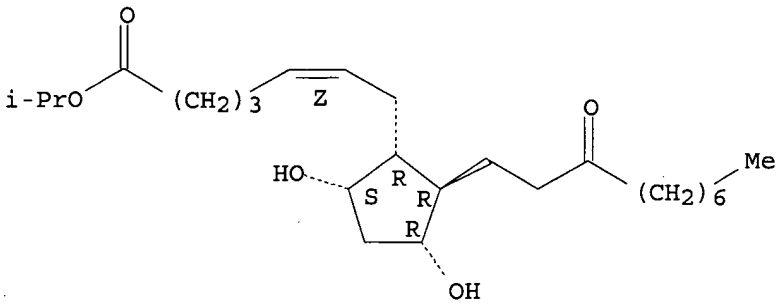
PRIORITY APPLN. INFO.: US 2001-275316P P 20010313
OTHER SOURCE(S): MARPAT 137:226656

AB The present invention relates to a method for opening potassium channels in mammalian cells by administering to a mammal effective amts. of potassium channel-opening keto compds. as described herein. Furthermore, the present invention relates to a method of maintaining or inducing hyperpolarization of the cell membrane which comprises administering an effective amt. of a potassium channel opening keto compd. as disclosed herein. The present invention further relates to a method for treating conditions and disease states related to potassium channel function which comprises administering an effective amt. of a potassium channel opening keto compd. disclosed herein.

IT **120373-24-2**, Unoprostone isopropyl ester
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(method for opening potassium channels using keto compds. and treatment of diseases from excessive cell membrane depolarization)

RN 120373-24-2 HCAPLUS
CN 5-Heptenoic acid, 7-[(1R,2R,3R,5S)-3,5-dihydroxy-2-(3-oxodecyl)cyclopentyl]-, 1-methylethyl ester, (5Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

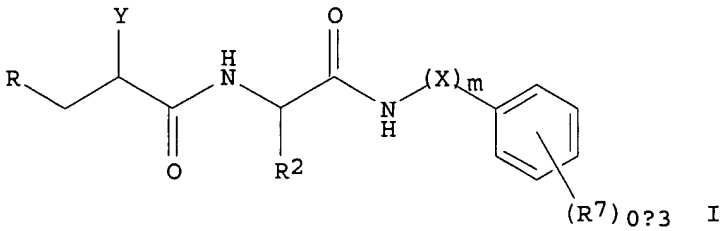


L43 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:594810 HCAPLUS
DOCUMENT NUMBER: 137:155177
TITLE: Preparation and ophthalmic compositions of amino acid amides for treating ocular hypertension
INVENTOR(S): Garcia, Maria L.; Kaczorowski, Gregory J.; Gao, Ying-Duo
PATENT ASSIGNEE(S): Merck & Co., Inc., USA
SOURCE: PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

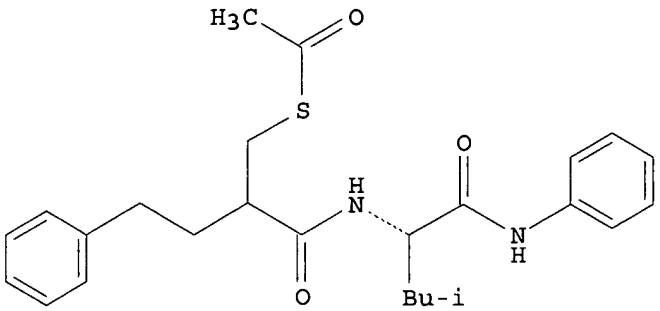
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002060863	A1	20020808	WO 2002-US3049	20020124

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-264954P P 20010130
OTHER SOURCE(S): MARPAT 137:155177
GI



I



II

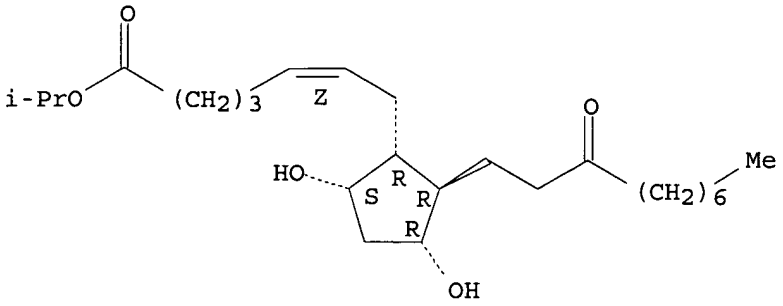
AB The compds. with a general formula of I [wherein R and R2 = independently alkyl, (CH2)n(hetero)aryl, (CH2)nheterocycloalkyl, said alkyl or (hetero)aryl optionally substituted with 1-3 groups of R3; Y = (CH2)nSCOR4; X = CH2 or O in which m = 1; R3 = H, alkoxy, alkyl(amino), CF3, NO2, NH2, CN, or halo; R4 = alkoxy or alkyl; R7 = H, halo, OH, NO2, NH2, CN, alkoxycarbonyl, CO2H, haloalkyl, alkoxycarbonylalkyl, or alkylsulfonyl; m = 1-3; n = 0-3; or a pharmaceutically acceptable salt, enantiomer, diastereomer, or mixt. thereof] were prepd. For example, L-leucine deriv. II was prepd. in a 7-step synthesis involving condensation of 4-phenyl-2-(acetylthiomethyl)butyric acid and (S)-leucine t-Bu ester and amidation with aniline (50%). This invention relates to the use of potent potassium channel blockers or formulations thereof in the treatment of glaucoma and other conditions which leads to elevated intraoccular pressure in the eye of a patient. This invention also relates to the use of such compds. to provide a neuroprotective effect to the eye of mammalian species, particularly humans. The compds. I were found to cause concn. dependent inhibition of the fluorescence ratio with IC50 values in the range of 10 nM to 5 .mu.M, more preferably from 100 nM to 1 .mu.M.

IT **120373-24-2**, Rescula
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(conbination therapy using amino acid amides for treatment of ocular hypertension or glaucoma)

RN 120373-24-2 HCAPLUS

CN 5-Heptenoic acid, 7-[(1R,2R,3R,5S)-3,5-dihydroxy-2-(3-oxodecyl)cyclopentyl]-, 1-methylethyl ester, (5Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:545509 HCAPLUS
DOCUMENT NUMBER: 135:127213
TITLE: Ophthalmic compositions containing potassium channel blockers for treating ocular hypertension
INVENTOR(S): Garcia, Maria L.; Kaczorowski, Gregory J.; McManus, Owen B.
PATENT ASSIGNEE(S): Merck + Co., Inc., USA
SOURCE: PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001052876	A1	20010726	WO 2001-US1623	20010117
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 2001044460	A1	20011122	US 2001-764738	20010117
US 6545036	B2	20030408		
EP 1251862	A1	20021030	EP 2001-903102	20010117
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				

PRIORITY APPLN. INFO.: US 2000-176695P P 20000118
WO 2001-US1623 W 20010117
OTHER SOURCE(S): MARPAT 135:127213

AB This invention relates to the use of potent potassium channel blockers or a formulation in the treatment of glaucoma and other conditions which leads to elevated intraocular pressure in the eye of a patient. This invention also relates to the use of such compds. to provide a neuroprotective effect to the eye, particularly in humans. Thus, a potassium channel blocker was prepd. by the treatment of indomethacin with dicyclohexylcarbodiimide in THF soln. The compd. was applied to the intracellular side of the channel at 0.001-10 .mu.M. The compd. reduced

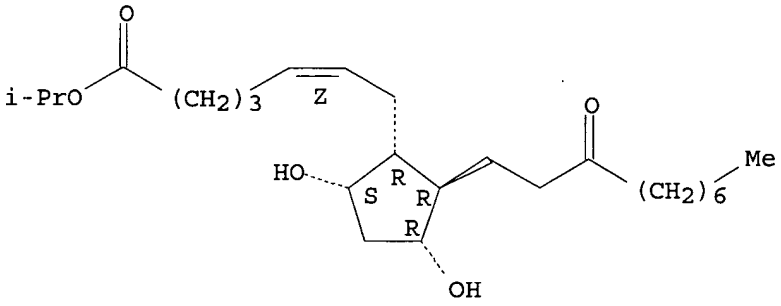
channel open probability. The IC50 for block of maxi-K channels was 0.5-300 nM.

IT **120373-24-2**, Rescula
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ophthalmic compns. contg. potassium channel blockers for treating glaucoma)

RN 120373-24-2 HCAPLUS

CN 5-Heptenoic acid, 7-[(1R,2R,3R,5S)-3,5-dihydroxy-2-(3-oxodecyl)cyclopentyl]-, 1-methylethyl ester, (5Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:455194 HCAPLUS

DOCUMENT NUMBER: 133:317853

TITLE: Effects of Isopropyl Unoprostone on Rabbit Ciliary Artery

AUTHOR(S): Hayashi, E.; Yoshitomi, T.; Ishikawa, H.; Hayashi, R.; Shimizu, K.

CORPORATE SOURCE: Department of Ophthalmology, Kitasato University School of Medicine, Kanagawa, Japan

SOURCE: Japanese Journal of Ophthalmology (2000), 44(3), 214-220
CODEN: JJOPA7; ISSN: 0021-5155

PUBLISHER: Elsevier Science Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Purpose: Iso-Pr unoprostone (unoprostone), a prostaglandin F2.alpha. (PG F2.alpha.)-related compd., is widely used for treatment of glaucoma in Japan and is reported to have effects on ocular circulation. To investigate the action of this drug, we have studied the effect of unoprostone on the isolated rabbit ciliary artery. Methods: Under microscopic observation, ciliary arteries were prepd. from rabbit eyes and mounted in a myograph system. The effects of unoprostone on the isolated rabbit ciliary artery were investigated in vitro using isometric tension recordings. Results: Exogenously applied PGF2.alpha. but not unoprostone evoked contraction in the rabbit ciliary artery. After precontraction with excess-[K]o soln., unoprostone evoked dose-dependent relaxation. The relaxation was not blocked by 10 .mu.M/L NG-nitro-L-arginine methylester (L-NAME), 1 .mu.M/L 8-37 calcitonin gene-related peptide (8-37 CGRP) or 10 .mu.M/L indomethacin. Moreover, unoprostone could induce relaxation even in prepns. without endothelium. The relaxation induced by diltiazem was greater in muscle precontracted in excess-[K]o soln. than that

precontracted by 10 .mu.M/L histamine. On the other hand, unoprostone induced a similar amplitude of relaxation in muscles precontracted by either drug. Conclusions: These results indicate that unoprostone acts directly to relax rabbit ciliary artery. The relaxation was not dependent on the endothelium and was not caused by intrinsic prostaglandins, CGRP, or nitric oxide. Moreover, the relaxation was different from that caused by a Ca2+ antagonist. The mechanism for this relaxation is not yet detd.

IT **7440-09-7**, Potassium, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(unoprostone relaxation of histamine- and potassium-precontracted isolated rabbit ciliary artery)

RN 7440-09-7 HCAPLUS
CN Potassium (8CI, 9CI) (CA INDEX NAME)

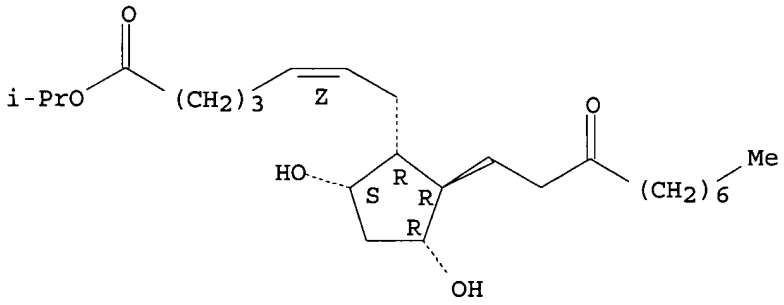
K

IT **120373-24-2**, Isopropyl unoprostone
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(unoprostone relaxation of isolated rabbit ciliary artery)

RN 120373-24-2 HCAPLUS
CN 5-Heptenoic acid, 7-[(1R,2R,3R,5S)-3,5-dihydroxy-2-(3-oxodecyl)cyclopentyl]-, 1-methylethyl ester, (5Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

9841 28



REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:503170 HCAPLUS
DOCUMENT NUMBER: 127:135678
TITLE: Preparation of substituted tetrahydrofuran analogs of prostaglandins as ocular **hypotensives**
INVENTOR(S): Selliah, Robert D.; Hellberg, Mark R.; Klimko, Peter G.; Sallee, Verney L.; Zinke, Paul W.
PATENT ASSIGNEE(S): Alcon Laboratories, Inc., USA; Selliah, Robert D.; Hellberg, Mark R.; Klimko, Peter G.; Sallee, Verney L.; Zinke, Paul W.
SOURCE: PCT Int. Appl., 64 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English

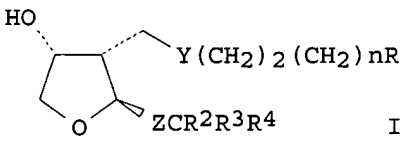
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9723223	A1	19970703	WO 1996-US17900	19961112
W: AU, CA, CN, JP, MX, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2236582	AA	19970703	CA 1996-2236582	19961112
AU 9676106	A1	19970717	AU 1996-76106	19961112
AU 714272	B2	19991223		
EP 869794	A1	19981014	EP 1996-938819	19961112
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
CN 1205638	A	19990120	CN 1996-199181	19961112
JP 3032302	B2	20000417	JP 1997-523627	19961112
US 5994397	A	19991130	US 1997-809920	19970404
US 6025392	A	20000215	US 1998-109852	19980702
US 6197812	B1	20010306	US 1999-440248	19991115
US 2001029265	A1	20011011	US 2001-800179	20010306
US 6369102	B2	20020409		

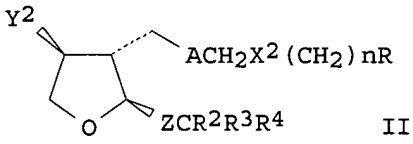
PRIORITY APPLN. INFO.:

US 1995-9866P	P	19951222
WO 1996-US17900	W	19961112
US 1997-809920	A2	19970404
US 1999-440248	A1	19991115

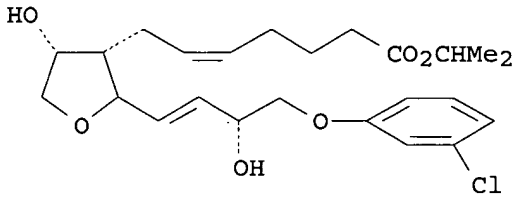
OTHER SOURCE(S): MARPAT 127:135678
GI



I



II



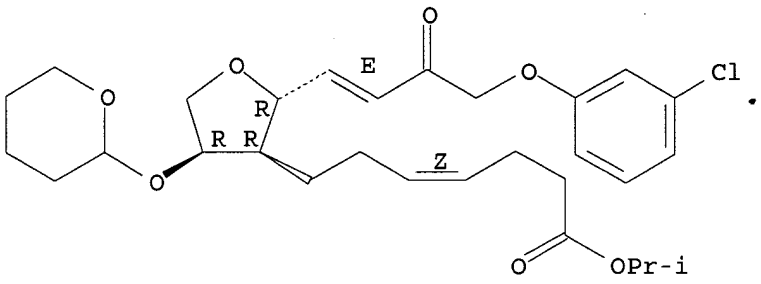
III

AB Prostaglandin THF analogs I and II [R = CO2R1, CONR7R8, CH2OR9, CH2NR10R11; R1 = H, cationic salt moiety; R7 = R8 = H, alkyl; R9 = R10 = R11 = H, acyl, alkyl; Y = (Z)-CH2CH:CH, (Z)-CH:CHCH2, (CH2)3; Z = (E)-CH:CH, (CH2)2, C.tplbond.C; Y2 = halogen, alkoxy; X2 = O, S, CH2; A = (Z)-CH:CH, (CH2)2, C.tplbond.C; R2 = R3 = H, F, OH; R2R3 = O, protected carbonyl; R4 = cyclohexyl, alkyl] were prepd. for use in treating glaucoma and ocular hypertension (no data). Thus, prostaglandin analog III was prepd. in a multistep synthesis starting from 1,2-O-isopropylidene-.alpha.-D-xylofuranose.

IT **192992-24-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of substituted THF analogs of prostaglandins as ocular

hypotensives)
RN 192992-24-8 HCAPLUS
CN L-ribo-Oct-3-en-2-ulose, 5,8-anhydro-1-O-(3-chlorophenyl)-3,4,6-trideoxy-6-[(3Z)-7-(1-methylethoxy)-7-oxo-3-heptenyl]-7-O-(tetrahydro-2H-pyran-2-yl)-, (3E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L43 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:113523 HCAPLUS
DOCUMENT NUMBER: 116:113523
TITLE: Treatment of ocular **hypertension** with synergistic combination comprising a ketoprostaglandin derivative and a cholinergic agent
INVENTOR(S): Ueno, Ryuji
PATENT ASSIGNEE(S): Kabushiki Kaisha Ueno Seiyaku Oyo Kenkyusho, Japan
SOURCE: Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 458589	A1	19911127	EP 1991-304575	19910521
EP 458589	B1	19950118		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
CA 2042934	AA	19911123	CA 1991-2042934	19910521
CA 2042934	C	20020423		
ES 2069823	T3	19950516	ES 1991-304575	19910521
JP 04253912	A2	19920909	JP 1991-147795	19910522
US 5397797	A	19950314	US 1993-31875	19930316

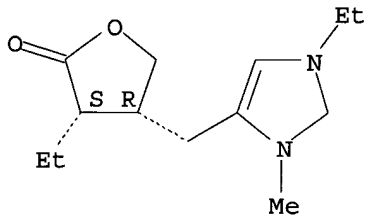
PRIORITY APPLN. INFO.: JP 1990-132912 A 19900522
US 1991-703640 B1 19910521
OTHER SOURCE(S): MARPAT 116:113523
AB Synergistic ocular antihypertensive compns. comprise a 13,14-dihydro-15-ketoprostaglandin deriv. and a cholinergic agent. Eye drops comprised 2.0 g pilocarpine-HCl 0.01 g 13,14-dihydro-15-keto-20-ethyl-PGF2.alpha. iso-Pr ester (I) and water to 100 mL. Applied to the rabbit eye, at 50 .mu.L, the compn. decreased ocular pressure. The prepn. of I is given.
IT **139236-83-2**
RL: BIOL (Biological study)
(ocular antihypertensive compn., synergistic)
RN 139236-83-2 HCAPLUS

CN 1H-Imidazolium, 1-ethyl-4-[(4-ethyltetrahydro-5-oxo-3-furanyl)methyl]-3-methyl-, chloride, (3R-cis)-, mixt. with [1R-[1.alpha.(Z),2.beta.,3.alpha.,5.alpha.]]-1-methylethyl 7-[3,5-dihydroxy-2-(3-oxodecyl)cyclopentyl]-5-heptenoate (9CI) (CA INDEX NAME)

CM 1

CRN 139236-82-1
CMF C13 H21 N2 O2 . Cl

Absolute stereochemistry.



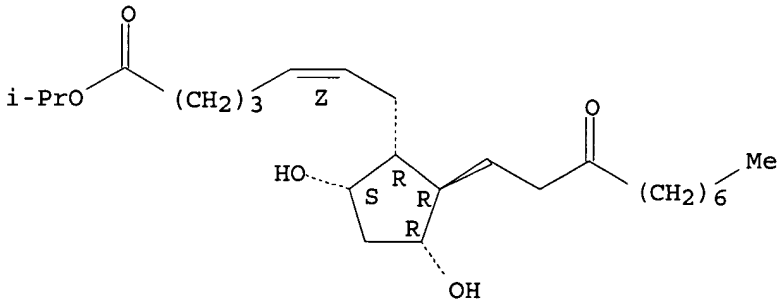
● Cl^-

*** FRAGMENT DIAGRAM IS INCOMPLETE ***

CM 2

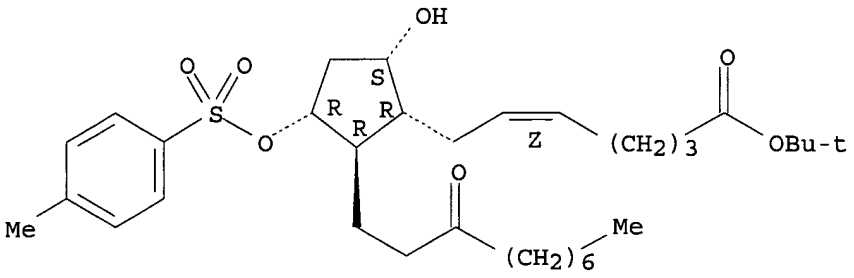
CRN 120373-24-2
CMF C25 H44 O5

Absolute stereochemistry.
Double bond geometry as shown.



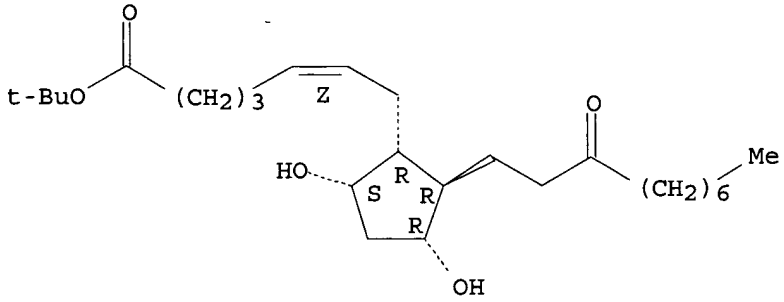
IT **138829-67-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and Jones oxidn. of)
RN 138829-67-1 HCAPLUS
CN 5-Heptenoic acid, 7-[5-hydroxy-3-[[(4-methylphenyl)sulfonyl]oxy]-2-(3-oxodecyl)cyclopentyl]-, 1,1-dimethylethyl ester, [1R-[1.alpha.(Z),2.beta.,3.alpha.,5.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



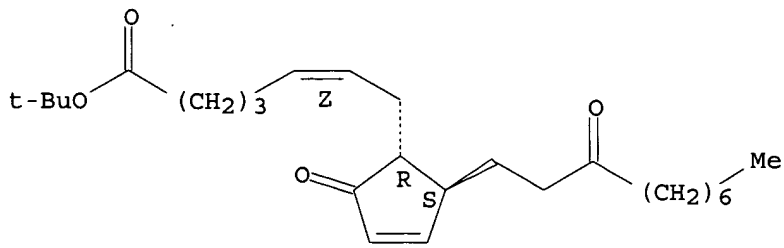
IT **138829-66-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and tosylation of)
RN 138829-66-0 HCAPLUS
CN 5-Heptenoic acid, 7-[3,5-dihydroxy-2-(3-oxodecyl)cyclopentyl]-, 1,1-dimethylethyl ester, [1R-[1.alpha.(Z),2.beta.,3.alpha.,5.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



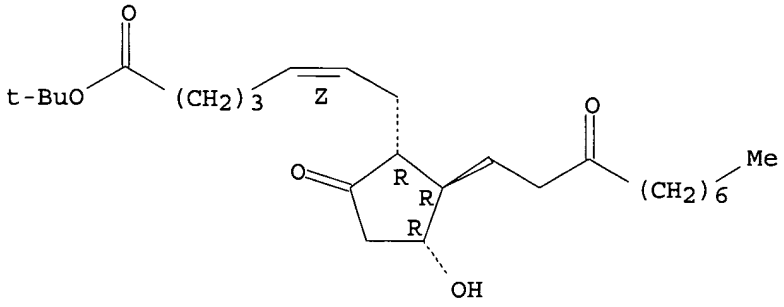
IT **138829-68-2P**
RL: PREP (Preparation)
(prepn. of, as component of synergistic ocular antihypertensive compns.)
RN 138829-68-2 HCAPLUS
CN 5-Heptenoic acid, 7-[2-oxo-5-(3-oxodecyl)-3-cyclopenten-1-yl]-, 1,1-dimethylethyl ester, [1R-[1.alpha.(Z),5.beta.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



IT **138829-71-7P**
RL: PREP (Preparation)
(prepn. of, as component of synergistic ocular hypertensive compn.)
RN 138829-71-7 HCAPLUS
CN 5-Heptenoic acid, 7-[3-hydroxy-5-oxo-2-(3-oxodecyl)cyclopentyl]-, 1,1-dimethylethyl ester, [1R-[1.alpha.(Z),2.beta.,3.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L43 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:91398 HCAPLUS
DOCUMENT NUMBER: 116:91398
TITLE: Treatment of ocular **hypertension** with a synergistic combination comprising a ketoprostaglandin derivative and a .beta.-adrenergic blocker
INVENTOR(S): Ueno, Ryuji
PATENT ASSIGNEE(S): Kabushiki Kaisha Ueno Seiyaku Oyo Kenkyusho, Japan
SOURCE: Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 458590	A1	19911127	EP 1991-304576	19910521
EP 458590	B1	19960110		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
CA 2042937	AA	19911123	CA 1991-2042937	19910521
CA 2042937	C	20020430		
US 5166175	A	19921124	US 1991-704570	19910521
AT 132750	E	19960115	AT 1991-304576	19910521
ES 2084771	T3	19960516	ES 1991-304576	19910521
JP 04253911	A2	19920909	JP 1991-147793	19910522

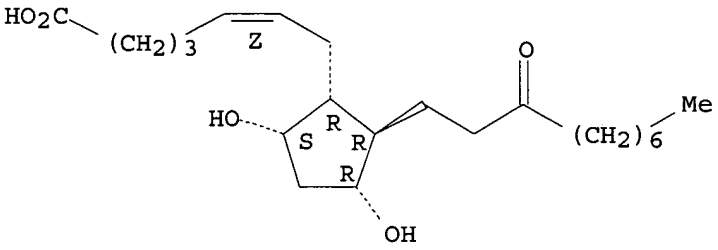
PRIORITY APPLN. INFO.: JP 1990-132910 A 19900522
OTHER SOURCE(S): MARPAT 116:91398
AB Synergistic ocular antihypertensive compns. comprise a 13,14-dihydro-15-ketoprostaglandin deriv. and a .beta.-adrenergic blocker. Eye drops contained 0.1 g timolol maleate, 0.01 g 13,14-dihydro-15-keto-20-ethyl-PGF2.alpha. iso-Pr ester (I) and water to 100 mL. The drops (50 .mu.L) lowered ocular pressure in rabbits. The prepn. of I is given.
IT **139067-45-1**

RL: BIOL (Biological study)
(ocular antihypertensive, synergistic)
RN 139067-45-1 HCAPLUS
CN 5-Heptenoic acid, 7-[3,5-dihydroxy-2-(3-oxodecyl)cyclopentyl]-, [1R-[1.alpha.(Z),2.beta.,3.alpha.,5.alpha.]]-, mixt. with (S)-1-[(1,1-dimethylethyl)amino]-3-[[4-(4-morpholinyl)-1,2,5-thiadiazol-3-yl]oxy]-2-propanol (2Z)-2-butenedioate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 120373-36-6
CMF C22 H38 O5

Absolute stereochemistry.
Double bond geometry as shown.



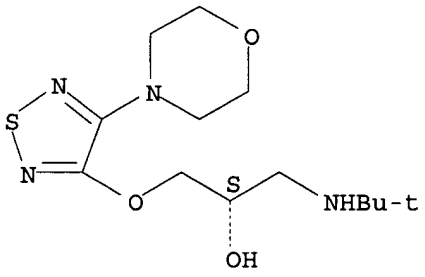
CM 2

CRN 26921-17-5
CMF C13 H24 N4 O3 S . C4 H4 O4

CM 3

CRN 26839-75-8
CMF C13 H24 N4 O3 S

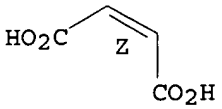
Absolute stereochemistry. Rotation (-).



CM 4

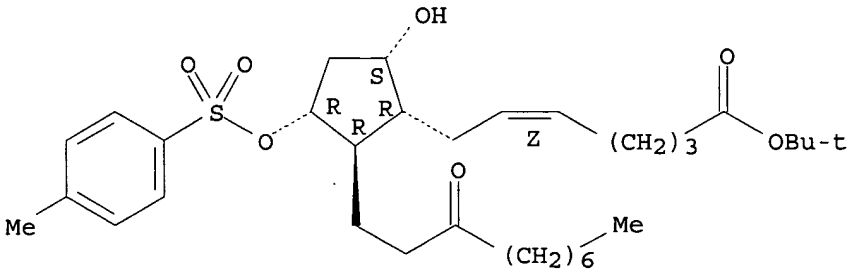
CRN 110-16-7
CMF C4 H4 O4

Double bond geometry as shown.



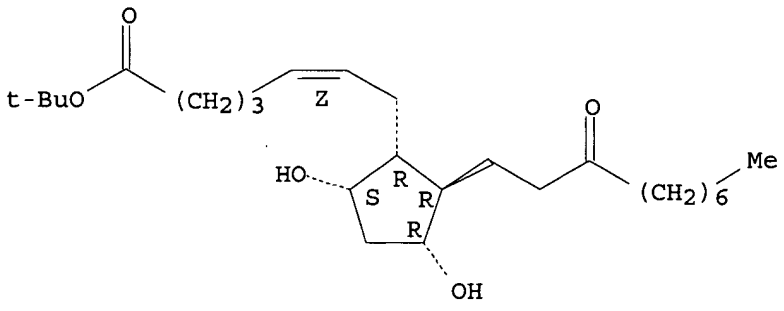
IT **138829-67-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and Jones oxidn. of)
RN 138829-67-1 HCAPLUS
CN 5-Heptenoic acid, 7-[5-hydroxy-3-[[(4-methylphenyl)sulfonyl]oxy]-2-(3-oxodecyl)cyclopentyl]-, 1,1-dimethylethyl ester, [1R-[1.alpha.(Z),2.beta.,3.alpha.,5.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



IT **138829-66-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and tosylation of)
RN 138829-66-0 HCAPLUS
CN 5-Heptenoic acid, 7-[3,5-dihydroxy-2-(3-oxodecyl)cyclopentyl]-, 1,1-dimethylethyl ester, [1R-[1.alpha.(Z),2.beta.,3.alpha.,5.alpha.]]- (9CI) (CA INDEX NAME)

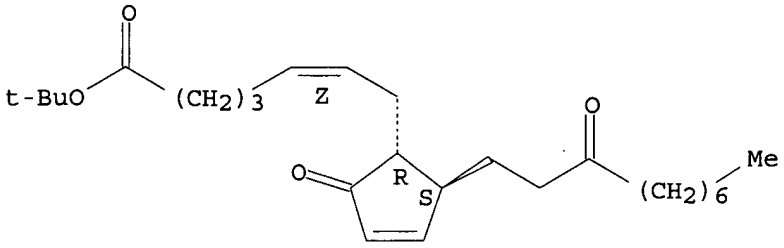
Absolute stereochemistry.
Double bond geometry as shown.



IT **138829-68-2P 138829-71-7P**
RL: PREP (Preparation)
(prepn. of, as component in synergistic ocular antihypertensive compn.)
RN 138829-68-2 HCAPLUS
CN 5-Heptenoic acid, 7-[2-oxo-5-(3-oxodecyl)-3-cyclopenten-1-yl]-,

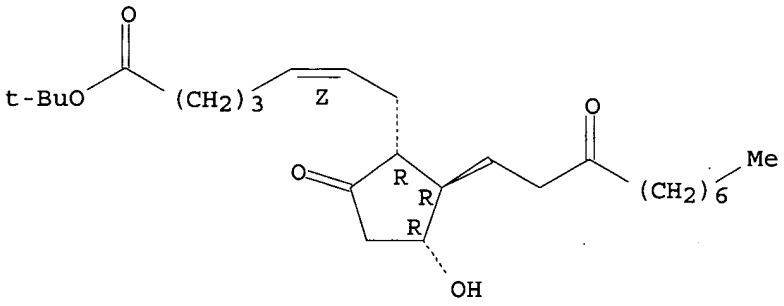
1,1-dimethylethyl ester, [1R-[1.alpha.(Z),5.beta.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 138829-71-7 HCAPLUS
CN 5-Heptenoic acid, 7-[3-hydroxy-5-oxo-2-(3-oxodecyl)cyclopentyl]-, 1,1-dimethylethyl ester, [1R-[1.alpha.(Z),2.beta.,3.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L43 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:566623 HCAPLUS
DOCUMENT NUMBER: 115:166623
TITLE: Pharmaceutical composition containing prostanoic acid derivatives for the treatment of hyperkalemia
INVENTOR(S): Ueno, Ryuji; Osama, Hiroyoshi
PATENT ASSIGNEE(S): Kabushiki Kaisha Ueno Seiyaku Oyo Kenkyusho, Japan
SOURCE: Eur. Pat. Appl., 22 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 410652	A2	19910130	EP 1990-307944	19900720
EP 410652	A3	19920311		
EP 410652	B1	19950517		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
JP 03130227	A2	19910604	JP 1990-196743	19900724

CA 2022323	AA	19910128	CA 1990-2022323	19900725
CA 2022323	C	19950725		
US 5075334	A	19911224	US 1990-557834	19900726
US 34756	E	19941011	US 1992-953786	19920930

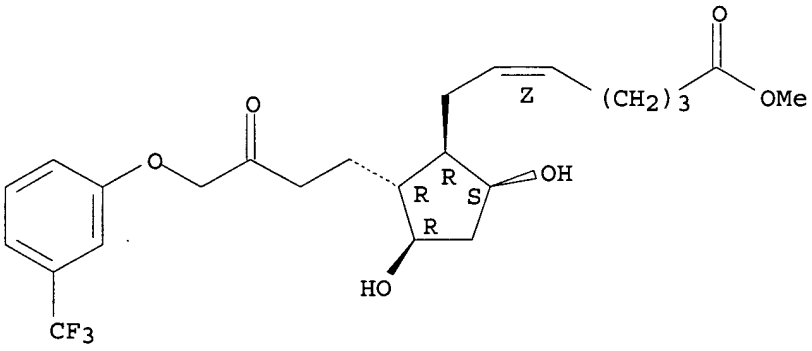
PRIORITY APPLN. INFO.: JP 1989-197090 19890727
US 1990-557834 19900726

AB Pharmaceutical compns. contg. prostanoic acid derivs. are used for the treatment of hyperkalemia. An injection soln. contained 13,14-dihydro-15-keto-16,16-difluoro-PGE2(I) 0.2, nonionic surfactant 2, and distd. water 98 parts. Pharmacol. effects of I was studied with rats.

IT **120373-37-7 122730-87-4 128678-53-5**
RL: BIOL (Biological study)
(hyperkalemia treatment with)

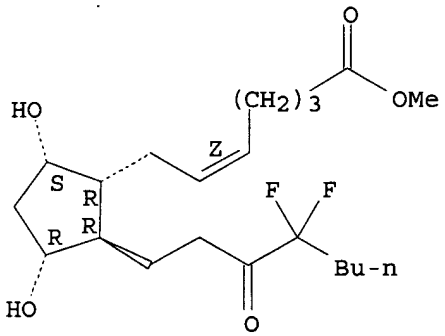
RN 120373-37-7 HCAPLUS
CN 5-Heptenoic acid, 7-[3,5-dihydroxy-2-[3-oxo-4-[3-(trifluoromethyl)phenoxy]butyl]cyclopentyl]-, methyl ester, [1R-[1.alpha.(Z),2.beta.,3.alpha.,5.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



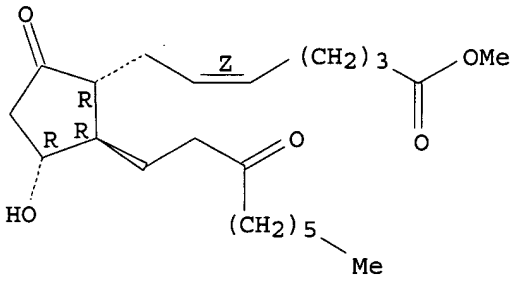
RN 122730-87-4 HCAPLUS
CN Prost-5-en-1-oic acid, 16,16-difluoro-9,11-dihydroxy-15-oxo-, methyl ester, (5Z,9.alpha.,11.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 128678-53-5 HCAPLUS
CN 5-Heptenoic acid, 7-[(1R,2R,3R)-3-hydroxy-5-oxo-2-(3-oxononyl)cyclopentyl]-, methyl ester, (5Z)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



IT **7440-09-7**, Potassium, biological studies
RL: BIOL (Biological study)
(metabolic disorders, **hyperkalemia**, treatment of, prostanoic acid derivs. for)
RN 7440-09-7 HCAPLUS
CN Potassium (8CI, 9CI) (CA INDEX NAME)

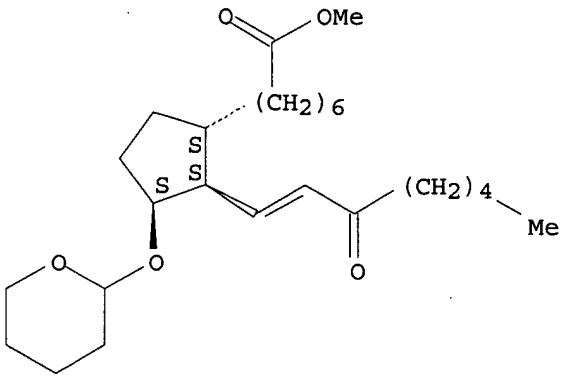
K

L43 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1973:3799 HCAPLUS
DOCUMENT NUMBER: 78:3799
TITLE: **Hypotensive** 3-hydroxycyclopentylalkanoic acids
INVENTOR(S): Finch, Neville
PATENT ASSIGNEE(S): Ciba-Geigy Corp.
SOURCE: U.S., 5 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3678092	A	19720718	US 1969-801797	19690224

PRIORITY APPLN. INFO.: US 1969-801797 19690224
GI For diagram(s), see printed CA Issue.
AB The title compds. I, useful in treatment of hypertension, were prepd. by redn. of the corresponding ethers. Thus, I (R = tetrahydro-2-pyranyl R1 = Me) reacted with HCl to give I(R = H, R1 = Me) which was hydrolyzed to give I (R = R1 = H) (III). Two epimers of III were prepd. as well as a number of intermediates.
IT **39493-41-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 39493-41-9 HCAPLUS
CN Prost-13-en-1-oic acid, 15-oxo-11-[(tetrahydro-2H-pyran-2-yl)oxy]-, methyl ester, (11.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.


O
OMe
(CH2)6
S
S
S
(CH2)4
Me
O
O
O